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10/585,569	07/10/2006	Kazuhiro Hayakawa	293209US40PCT	4420

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EXAMINER	
SHIVERS, ASHLEY L	
ART UNIT	**PAPER NUMBER**
2477	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/585,569	HAYAKAWA ET AL.	
	Examiner	Art Unit	
	ASHLEY L. SHIVERS	2477	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *Jan. 14, 2010 (Applicants' Amendment)*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on January 14, 2010 has been entered. Claims 25-50 have been amended. Claims 1-24 were previously canceled. No claims have been added. Claims 25-50 are still pending in this application, with claims 25 and 38 being independent.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 25, 28-30, 33-34, 36-38, 41-43, 46-47 and 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hauck (**U.S. Patent No. 6,977,932**), hereinafter referred to as Hauck in view of DelRegno et al. (**U.S. PGPub 2005/0220107**), hereinafter referred to as DelRegno in further view of Chu et al. (**U.S. Patent No. 7,486,684**), hereinafter referred as Chu.

Regarding claim 25, Hauck teaches a packet communication network that is connected to a first external network and a second external network (**See Fig. 1A**), and

that executes packet communication between the first external network and the second external network for a plurality of services of which quality of requirements on an end-to-end basis are different, the packet communication network comprising:

a parallel network (**Between Ingress LSR and Egress LSR**) constituted by a plurality of physically or logically (**tunneling using multiple LSPs simultaneously**) independent internal networks (**See Fig. 1A**);

at least one classifier connected to the first external network and to each internal network (**Ingress LSR; See Fig. 1A**), that classifies packets according to a forwarding equivalence class table (**FEC; See Fig. 1B, #152**) wherein the packet is classified using the protocol type, source address, destination address, source port and destination port associated with each data packet (**See col. 6, lines 17-30**); and

at least one multiplexer (**Egress LSR; See Fig. 1A**) connected to each of the internal networks in the parallel network and to the second external network (**See Fig. 1A**).

Hauck fails to teach of when classifying a packet to one of the internal networks in the parallel network, the classifier identifies a packet as a voice packet when a pair of transmission source address and a destination address as well as a destination port number are equal to a pair of addresses between which a conversation is held by a voice service and classifying the voice packet to a voice network among the internal networks and the multiplexer prioritizing a packet received from the voice network over a packet

received from other internal networks and multiplexing packets received from a plurality of internal networks in the parallel network when outputting a multiplexed packet to the second external network.

DelRegno teaches of a multiplexer that prioritizes a packet received from the voice network over a packet received from other internal networks (**A traffic stream marked as high priority, such as delay sensitive voice signal, may receive preferential treatment in comparison to other flows as it undergoes queuing and forwarding in network elements; See [0120]**) and multiplexing packets received from a plurality of internal networks in the parallel network when outputting a multiplexed packet to the second external network (**The physical port multiplexes the outputs of multiple logical ports onto a transmission medium using a scheduler, which forwards the received packets to the respective logical port. The scheduler selects a packet from a queue and transmits it onto an output link in accordance with a selection discipline, for example, priority queuing or some form of weighted service across multiple queues; See [[0112]-[0113]]**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication network of Hauck to include a multiplexer that prioritizes a packet received from the voice network over a packet received from other internal networks and multiplexing packets received from a plurality of internal networks in the parallel network when outputting a multiplexed packet to the second external network taught by DelRegno in order to manage and

process flows in a manner that enhances scalability of the access network in handling a large number of flows.

Hauck in view of DelRegno still fails to explicitly teach of when classifying a packet to one of the internal networks in the parallel network, the classifier identifying a packet as a voice packet when a pair of a transmission source address and a destination address as well as a destination port number are equal to a pair of addresses between which a conversation is held by a voice service and classifying the voice packet to a voice network among the internal networks.

Chu teaches of a classifier (**See Fig. 3, #302**) identifying a packet as a voice packet when a pair of a transmission source address and a destination address as well as a destination port number are equal to a pair of addresses between which a conversation is held by a voice service and classifying the voice packet to a voice network among the internal networks (**The packet switch classifies the packets and forwards all VOIP-VPN voice packets to a VOIP network. Each access interface has an associated table whose entries consist of destination and origination IP-address/UDP port pairs with protocol type UDP. The table is created when a call is set up and deleted when a call is torn down. Packets matching any one of the entries will be forwarded to the logical module that handles VOIP-VPN logic. Otherwise packets are processed as non VOIP-VPN traffic. VOIP-VPN traffic is forwarded to the packet switch via a plurality of tunnels such as MPLS LSPs; See col. 5, lines 14-17, 28-38 and 56-58**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication network of Hauck in view of DelRegno to include when classifying a packet to one of the internal networks in the parallel network, the classifier identifying a packet as a voice packet when a pair of a transmission source address and a destination address as well as a destination port number are equal to a pair of addresses between which a conversation is held by a voice service and classifying the voice packet to a voice network among the internal networks taught by Chu in order to separate packets that require minimal delay and processing so as to minimize packet loss.

Regarding claim 28, Hauck further teaches the packet communication network according to claim 25, wherein the classifier classifies a packet according to a feature amount of contents of the packet (**source address, destination address, source port or destination port; See col. 6, lines 23-26**).

Regarding claim 29, Hauck teaches the packet communication network according to claim 28, wherein the feature amount is a DiffServ code point of an IP packet.

DelRegno teaches of the feature amount being a DSCP (**See [0105]**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication network of Hauck to include

the feature amount being a DSCP taught by DelRegno in order to maintain an acceptable level of QoS for data transmission.

Regarding claim 30, Hauck further teaches the packet communication network according to claim 28, wherein the feature amount is any one of a protocol number of an IP packet, a destination port number of a UDP packet, and a destination port number of a TCP packet (**UDP/TCP destination port; See col. 5, lines 13-16 and col. 6, lines 23-26**).

Regarding claim 33, Hauck further teaches the packet communication network according to claim 25, wherein the classifier includes a detector (**IPM; See Fig. 1B, #144**) that detects a status of traffic of each of the networks in the parallel network, and classifies a packet according to the status of the traffic (**An ingress linecard selects an LSP based on utilization values of the LSPs and QoS requirements of the micro-flow. If there are multiple output ports for an LSP, then the output port for that LSP is selected based on the utilization so that traffic can be load balanced over those ports; See col. 7, lines 66-67 and col. 8, lines 1-13**).

Regarding claim 34, Hauck further teaches the packet communication network according to claim 25, wherein the networks in the parallel network are logically grouped into a plurality of groups so that each of the groups includes a plurality of networks that are physically same (**See Fig. 1A**).

Regarding claim 36, Hauck teaches the packet communication network according to claim 25, but fails to teach of the multiplexer preferentially processing a packet received from a specific one of the networks in the parallel network.

DelRegno teaches of processing a packet received from a specific one of the networks in the parallel network (**A traffic stream marked as high priority, such as delay sensitive voice signal, may receive preferential treatment in comparison to other flows as it undergoes queuing and forwarding in network elements; See [0120]**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication network of Hauck to include the multiplexer preferentially processing a packet received from a specific one of the networks in the parallel network taught by DelRegno in order to manage and process flows in a manner that enhances scalability of the access network in handling a large number of flows.

Regarding claim 37, Hauck teaches the packet communication network according to claim 25, but fails to teach of the multiplexer preferentially processing a packet having a predetermined feature amount.

DelRegno teaches of processing a packet having a predetermined feature amount (**A traffic stream marked as high priority, such as delay sensitive voice signal, may**

receive preferential treatment in comparison to other flows as it undergoes queuing and forwarding in network elements; See [0120]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication network of Hauck to include the multiplexer preferentially processing a packet received having a predetermined feature amount taught by DelRegno in order to manage and process flows in a manner that enhances scalability of the access network in handling a large number of flows.

Regarding claim 38, Hauck teaches a packet communication method, realized on a packet communication network with a plurality of internal networks in a parallel network that is connected to a first external network and a second external network (**See Fig. 1A**), executing packet communication between the first external network and the second external network, the packet communication method comprising:

a classifier, connected to the first external network and to each of a plurality of internal networks ((**Ingress LSR; See Fig. 1A**), the plurality of internal networks being physically or logically (**tunneling using multiple LSPs simultaneously**) independent and in a parallel network (**See Fig. 1A**), classifying a packet received from the first external network to one of the plurality of internal networks in the parallel network (**An ingress linecard in the ingress LSR selects a LSP based on the utilization values of the LSPs and QoS**

requirements of the micro-flow based on the Forwarding Equivalence Class; See col. 7, lines 66-67 and col. 8, lines 1-8);

the one of the internal networks in the parallel network that the classifier classified the packet to transferring the packet (**The data packet is transmitted across the fabric of the transit LSR to an egress linecard which then outputs the data to the next transit LSR or the penultimate LSR along the LSP; See Fig. 1A, col. 16, lines 46-67 and col. 17, lines 1-60**); and

a multiplexer (**Egress LSR; See Fig. 1A**) connected to each of the plurality of internal networks in the parallel network and to the second external network (**See Fig. 1A**).

Hauck fails to teach of the classifier identifying a packet as a voice packet when a pair of transmission source address and a destination address as well as a destination port number are equal to a pair of addresses between which a conversation is held by a voice service and classifying the voice packet to a voice network among the internal networks and the multiplexer multiplexing packets received from a plurality of internal networks in the parallel network when outputting a multiplexed packet to the second external network.

DelRegno teaches of a multiplexer that multiplexes packets received from a plurality of internal networks in the parallel network when outputting a multiplexed packet to the second external network (**The physical port multiplexes the outputs of multiple logical ports onto a transmission medium using a scheduler, which**

forwards the received packets to the respective logical port. The scheduler selects a packet from a queue and transmits it onto an output link in accordance with a selection discipline, for example, priority queuing or some form of weighted service across multiple queues; See [[0112]-[0113]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication network of Hauck to include a multiplexer that multiplexes packets received from a plurality of internal networks in the parallel network when outputting a multiplexed packet to the second external network taught by DelRegno in order to manage and process flows in a manner that enhances scalability of the access network in handling a large number of flows.

Hauck in view of DelRegno still fails to explicitly teach of the classifier identifying a packet as a voice packet when a pair of a transmission source address and a destination address as well as a destination port number are equal to a pair of addresses between which a conversation is held by a voice service and classifying the voice packet to a voice network among the internal networks.

Chu teaches of a classifier (**See Fig. 3, #302**) identifying a packet as a voice packet when a pair of a transmission source address and a destination address as well as a destination port number are equal to a pair of addresses between which a conversation is held by a voice service and classifying the voice packet to a voice network among the internal networks (**The packet switch classifies the packets and forwards all VOIP-VPN voice packets to a VOIP network. Each access interface has an associated table**

whose entries consist of destination and origination IP-address/UDP port pairs with protocol type UDP. The table is created when a call is set up and deleted when a call is torn down. Packets matching any one of the entries will be forwarded to the logical module that handles VOIP-VPN logic. Otherwise packets are processed as non VOIP-VPN traffic. VOIP-VPN traffic is forwarded to the packet switch via a plurality of tunnels such as MPLS LSPs; See col. 5, lines 14-17, 28-38 and 56-58).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication method of Hauck in view of DelRegno to include when the classifier identifying a packet as a voice packet when a pair of a transmission source address and a destination address as well as a destination port number are equal to a pair of addresses between which a conversation is held by a voice service and classifying the voice packet to a voice network among the internal networks taught by Chu in order to separate packets that require minimal delay and processing so as to minimize packet loss.

Regarding claim 41, Hauck further teaches the packet communication method according to claim 38, wherein the classifier classifies a packet according to a feature amount of contents of the packet (**source address, destination address, source port or destination port; See col. 6, lines 23-26**).

Regarding claim 42, Hauck teaches the packet communication method according to claim 41, but fails to teach of the feature amount being a DiffServ code point of an IP packet.

DelRegno teaches of the feature amount being a DSCP (**See [0105]**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication method of Hauck to include the feature amount being a DSCP taught by DelRegno in order to maintain an acceptable level of QoS for data transmission.

Regarding claim 43, Hauck further teaches the packet communication method according to claim 41, wherein the feature amount is any one of a protocol number of an IP packet, a destination port number of a UDP packet, and a destination port number of a TCP packet (**UDP/TCP destination port; See col. 5, lines 13-16 and col. 6, lines 23-26**).

Regarding claim 46, Hauck further teaches the packet communication method according to claim 38, wherein the classifier detects a status of traffic of each of the networks in the parallel network, and classifies a packet according to the status of the traffic (**An ingress linecard selects an LSP based on utilization values of the LSPs and QoS requirements of the micro-flow. If there are multiple output ports for an LSP, then the output port for that LSP is selected based on the utilization so that traffic can be load balanced over those ports; See col. 7, lines 66-67 and col. 8, lines 1-13**).

Regarding claim 47, Hauck further teaches the packet communication method according to claim 38, wherein the networks in the parallel network are logically grouped into a plurality of groups so that each of the groups includes a plurality of networks that are physically same (**See Fig. 1A**).

Regarding claim 49, Hauck teaches the packet communication method according to claim 38, but fails to teach of the multiplexer preferentially processing a packet received from a specific one of the networks in the parallel network.

DelRegno teaches of processing a packet received from a specific one of the networks in the parallel network (**A traffic stream marked as high priority, such as delay sensitive voice signal, may receive preferential treatment in comparison to other flows as it undergoes queuing and forwarding in network elements; See [0120]**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication network of Hauck to include the multiplexer preferentially processing a packet received from a specific one of the networks in the parallel network taught by DelRegno in order to manage and process flows in a manner that enhances scalability of the access network in handling a large number of flows.

Regarding claim 50, Hauck teaches the packet communication method according to claim 38, but fails to teach the multiplexer preferentially processing a packet having a predetermined feature amount.

DelRegno teaches of processing a packet having a predetermined feature amount (**A traffic stream marked as high priority, such as delay sensitive voice signal, may receive preferential treatment in comparison to other flows as it undergoes queuing and forwarding in network elements; See [0120]**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication method of Hauck to include the multiplexer preferentially processing a packet having a predetermined feature amount taught by DelRegno in order to manage and process flows in a manner that enhances scalability of the access network in handling a large number of flows.

4. Claims 26-27 and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hauck in view of DelRegno and Chu in further view of Mononen (**U.S. Patent No. 7,050,403**), hereinafter referred to as Mononen.

Regarding claim 26, Hauck in view of DelRegno in further view of Chu teaches the packet communication network according to claim 25, but fails to teach of the classifier classifying a packet according to a feature amount of a form of the packet.

Mononen teaches of a classifier (**See Fig. 6A, #2**) classifying a packet according to a feature amount of a form of the packet (**If the length of the packet is below a threshold, the packet is classified as a speech packet; See col. 4, lines 32-33**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication network of Hauck in view of DelRegno and Chu to include the classifier classifying a packet according to a feature amount of a form of the packet taught by Mononen in order to determine the classes of packet by referring to their length resulting in fast packet processing.

Regarding claim 27, Hauck in view of DelRegno in further view of Chu teaches the packet communication network according to claim 26, wherein the feature amount is a packet length of the packet.

Mononen teaches of the feature amount being a length of the packet (**If the length of the packet is below a threshold, the packet is classified as a speech packet; See col. 4, lines 32-33**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication network of Hauck in view of DelRegno and Chu to include the feature amount being the length of the packet taught by Mononen in order to determine the classes of packet by referring to their length resulting in fast packet processing.

Regarding claim 39, Hauck in view of DelRegno in further view of Chu teaches the packet communication method according to claim 38, wherein the classifier classifies a packet according to a feature amount of a form of the packet.

Mononen teaches of a classifier (**See Fig. 6A, #2**) classifying a packet according to a feature amount of a form of the packet (**If the length of the packet is below a threshold, the packet is classified as a speech packet; See col. 4, lines 32-33**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication method of Hauck in view of DelRegno and Chu to include the classifier classifying a packet according to a feature amount of a form of the packet taught by Mononen in order to determine the classes of packet by referring to their length resulting in fast packet processing.

Regarding claim 40, Hauck in view of DelRegno in further view of Chu teaches the packet communication method according to claim 39, wherein the feature amount is a packet length of the packet.

Mononen teaches of the feature amount being the length of the packet (**If the length of the packet is below a threshold, the packet is classified as a speech packet; See col. 4, lines 32-33**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication method of Hauck in view of DelRegno and Chu to include the feature amount being the length of the packet taught

by Mononen in order to determine the classes of packet by referring to their length resulting in fast packet processing.

5. Claims 31 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hauck in view of DelRegno, Chu and Mononen in further view of McFaden et al. (**U.S. PGPub 2004/0114518**), hereinafter referred to as McFaden.

Regarding claim 31, Hauck in view of DelRegno, Chu and Mononen teaches the packet communication network according to claim 26, but fails to teach of the classifier classifying the packet according to a time series change in a sum of data amounts of packets having an equal feature amount.

McFaden teaches of the classifier (**See Fig. 2, #216**) classifying the packet according to a time series change in a sum of data amounts of packets having an equal feature amount (**The data collection module collects traffic data and accumulates byte counts and/or packet counts during a time period for packets from a specific source or destination IP address, port or protocol type. The classification rules are then dynamically adjusted; See [0039]-[0040]**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication network of Hauck in view of DelRegno, Chu and Mononen to include the classifier classifying the packet according to a time series change in a sum of data amounts of packets having an equal feature

amount taught by McFaden in order to account for changes in traffic data and to identify trends so as to provide more appropriate traffic classification.

Regarding claim 44, Hauck in view of DelRegno, Chu and Mononen teaches the packet communication method according to claim 39, but fails to teach of the classifier classifying the packet according to a time series change in a sum of data amounts of packets having an equal feature amount.

McFaden teaches of the classifier (**See Fig. 2, #216**) classifying the packet according to a time series change in a sum of data amounts of packets having an equal feature amount (**The data collection module collects traffic data and accumulates byte counts and/or packet counts during a time period for packets from a specific source or destination IP address, port or protocol type. The classification rules are then dynamically adjusted; See [0039]-[0040]**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication method of Hauck in view of DelRegno, Chu and Mononen to include the classifier classifying the packet according to a time series change in a sum of data amounts of packets having an equal feature amount taught by McFaden in order to account for changes in traffic data and to identify trends so as to provide more appropriate traffic classification.

6. Claims 32 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hauck in view of DelRegno and Chu in further view of McFaden.

Regarding claim 32, Hauck in view of DelRegno and Chu teaches the packet communication network according to claim 28, but fails to teach of the classifier classifying the packet according to a time series change in a sum of data amounts of packets having an equal feature amount.

McFaden teaches of the classifier (**See Fig. 2, #216**) classifying the packet according to a time series change in a sum of data amounts of packets having an equal feature amount (**The data collection module collects traffic data and accumulates byte counts and/or packet counts during a time period for packets from a specific source or destination IP address, port or protocol type. The classification rules are then dynamically adjusted; See [0039]-[0040]**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication network of Hauck in view of DelRegno and Chu to include the classifier classifying the packet according to a time series change in a sum of data amounts of packets having an equal feature amount taught by McFaden in order to account for changes in traffic data and to identify trends so as to provide more appropriate traffic classification.

Regarding claim 45, Hauck in view of DelRegno and Chu teaches the packet communication method according to claim 41, but fails to teach of the classifier

classifying the packet according to a time series change in a sum of data amounts of packets having an equal feature amount.

McFaden teaches of the classifier (**See Fig. 2, #216**) classifying the packet according to a time series change in a sum of data amounts of packets having an equal feature amount (**The data collection module collects traffic data and accumulates byte counts and/or packet counts during a time period for packets from a specific source or destination IP address, port or protocol type. The classification rules are then dynamically adjusted; See [0039]-[0040]**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication method of Hauck in view of DelRegno and Chu to include the classifier classifying the packet according to a time series change in a sum of data amounts of packets having an equal feature amount taught by McFaden in order to account for changes in traffic data and to identify trends so as to provide more appropriate traffic classification.

7. Claims 35 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hauck in view of DelRegno and Chu in further view of Drwiega et al. (**U.S. Patent No. 6,842,463**), hereinafter referred to as Drwiega.

Regarding claim 35, Hauck in view of DelRegno and Chu teaches the packet communication network according to claim 34, but fails to teach of each of the groups

including a unit that dynamically changes an allocation of bands to each of the networks in the group.

Drwiega teaches of each of the groups includes a unit that dynamically changes an allocation of bands to each of the networks in the group (**The admission controller monitors the amount of traffic carried by each tunnel and the capacity required by new requests for service. The information gathered is used to determine whether to admit new requests for service. The capacity manager determines an estimated total capacity requirement and can either increase or reduce the capacity for the links; See col. 5, lines 61-67, col. 7, lines 20-67 and col. 8, lines 1-10**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication network of Hauck in view of DelRegno and Chu to include each of the groups including a unit that dynamically changes an allocation of bands to each of the networks in the group taught by Drwiega in order to maximize the revenues of installed network capacity while meeting the QoS needs of unpredictable traffic and performing the changes with minimum time and overhead costs.

Regarding claim 48, Hauck in view of DelRegno and Chu teaches the packet communication method according to claim 47, wherein each of the groups includes a unit that dynamically changes an allocation of bands to each of the networks in the group.

Drwiega teaches of each of the groups includes a unit that dynamically changes an allocation of bands to each of the networks in the group (**The admission controller monitors the amount of traffic carried by each tunnel and the capacity required by new requests for service. The information gathered is used to determine whether to admit new requests for service. The capacity manager determines an estimated total capacity requirement and can either increase or reduce the capacity for the links; See col. 5, lines 61-67, col. 7, lines 20-67 and col. 8, lines 1-10**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the packet communication method of Hauck in view of DelRegno and Chu to include each of the groups including a unit that dynamically changes an allocation of bands to each of the networks in the group taught by Drwiega in order to maximize the revenues of installed network capacity while meeting the QoS needs of unpredictable traffic and performing the changes with minimum time and overhead costs.

Response to Arguments

8. Applicant's arguments with respect to claims 25-50 are have been considered but are moot in view of the new ground(s) of rejection.

On pages 12-14 of the Applicants' Response, Applicants state that Soininen does not teach or suggest a packet communication network comprising a parallel network of a plurality of physically or logically independent internal networks at all but instead

describes a communication system comprising a plurality of connections, only one of which is a packet-switched connection. Applicants also state that Soininen is silent regarding "identifying a packet as a voice packet when pairs of addresses and ports are equal to those between which a conversation is held by a voice service and classifying the voice packet to a voice network". Lastly, Applicants state that Widegren, Chaskar, Kekki, Brouwer, Boudreaux, Abrams and Davis also fail to cure the deficiencies of Soininen.

With regards to the fact that Soininen teaches of one packet--witched connection and one circuit-switched connection, Examiner agrees that Soininen fails to teach solely a packet communication network and that the remaining references fail to cure the deficiencies of Soininen, as such the above references have been removed from consideration.

However with respect to the newly amended claims, Examiner has introduced Hauck (**U.S. Patent No. 6,977,932**), which teaches of a packet communication network where packets are classified to the various MPLS LSPs in a logically independent manner (**See Fig. 1A, col. 7, lines 34-67 and col. 8, lines 1-13**). While Hauck teaches of voice packets being classified to a specific LSP, it does fail to show that the egress LSR multiplexes the packets and prioritizes the voice network over the other networks and identifying that a packet is a voice packet when classifying the packet. DelRegno teaches of the egress device receiving packets received from the LSPs and sorting them into queues before scheduling and multiplexing the packets to be sent out the physical

port of the device (**See Fig. 11, [0112] and [0113]**). Chu teaches of classifying packets as VOIP or non-VOIP based on various components of the packet (**See Fig. 2 and col. 5, lines 14-17, 28-36, 40-43 and 56-60**).

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

10. Any response to this action should be **faxed** to (571) 273-8300 or **mailed** to:

Commissioner of Patents,
P.O. Box 1450
Alexandria, VA 22313-1450

Hand delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHLEY L. SHIVERS whose telephone number is (571) 270-3523. The examiner can normally be reached on Monday-Friday 8:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag Shah can be reached on (571) 272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. L. S./
Examiner, Art Unit 2477
4/1/2010

/Chirag G Shah/
Supervisory Patent Examiner, Art Unit 2477